
INDOT 2030 Long Range Plan

Planning Analysis

Overview

The identification of proposed transportation improvements is based upon an analysis process that begins with the policy plan framework of the 1995 Statewide Long-Range Multimodal Transportation Plan. For the analysis of highway projects, the system identification of Statewide Mobility and Regional Corridors and their role in providing high speed, long distance inter-city connectivity provided a central focus for plan development. Several steps (as outlined in the earlier Chapter 9 Highway Needs Analysis) provided the identification of highway system deficiencies both in the system-wide analysis of overall needs and in the specific location of problem areas. These steps included the identification of projects from existing planning documents (production schedule and MPO plans), the statewide system planning tools (including the statewide travel demand model and the HERS_ST_IN needs analysis), the on-going INDOT planning programs of the statewide interchange study and other planning studies. This chapter outlines the planning analysis conducted in transitioning from the identification of highway needs to the development of a phased statewide implementation plan of specific proposed transportation improvements. This process is based upon a variety of planning inputs, some based upon quantifiable analysis, some based upon expert review by key transportation stakeholders and planning partners, and some based upon planning and engineering judgement. A key element in the process of developing the phased implementation plan is the consideration of fiscal constraint for both the overall program and for each of the five individual planning phases. The result of this process is the development of the proposed transportation improvements in Chapter 11.

Policy Planning Framework and Statewide Mobility Corridors

In the 1995 Statewide Long-Range Multimodal Transportation Plan Policy and Strategies Section for highway development strategies, the following policy statement is made: "INDOT will pursue the expansion, improvement, and intermodal solutions necessary to ensure that the transportation system supports growth of the state's economy, demand for mobility of people and goods, and improvement of the environment." In implementing this strategy for the expansion and improvement of the state highway system, the concept of the classification of corridors at the statewide, regional and local levels was developed. In keeping with the policy emphasis upon creating a system of high-speed, inter-city highway connections, the Statewide Mobility Corridors provided guidance in the development of rural four or six lane highway improvements. Where a series of highway needs were identified in a corridor identified as a Statewide Mobility Corridor, a decision was made to link the various improvement locations by providing continuous added travel lanes improvements. Not all statewide mobility corridors warrant additional travel lanes. Many statewide mobility corridors have unique characteristics which require significant additional

study to determine the most appropriate mobility improvements. These corridors have been identified as placeholders with a tentative improvement concept for long range planning proposals until additional studies can be conducted. Several corridors have been identified that only require upgrading to a higher level two-lane improvement concept of roadway reconstruction 4R type treatments where warranted by traffic. In 2005 INDOT is conducting a statewide access management planning study to develop techniques to improve the traffic carrying capacity of the Statewide Mobility Corridors. The following highway improvements were identified on Statewide Mobility Corridors.

- I-65 added travel lanes Louisville to Indianapolis
- I-65 added travel lanes Indianapolis to Lafayette
- I-69 added travel lanes Indianapolis to east of Anderson
- I-70 added travel lanes Illinois to Indianapolis
- I-70 added travel lanes from Indianapolis to Ohio
- South Suburban Expressway (Northwest Indiana)
- US 24 Fort Wayne to Ohio (4 lanes)
- US 27 Richmond to Fort Wayne (reconstruction)
- US 30 I-65 to Fort Wayne (isolated added travel lanes)
- US 31 Freeway Upgrade from Indianapolis to South Bend
- US 33 Fort Wayne to Elkhart (2 lane roadway reconstruction with isolated added travel lanes)
- US 35 Kokomo to I-69 (4R reconstruction)
- US 50 Washington to SR 101 (reconstruction, new road construction, and added travel lanes)
- US 231 from Spencer to I-65 at Lafayette (added travel lanes)
- SR 3 East-Central Indiana Corridor (new road construction)
- SR 25 Lafayette to Logansport (new road construction)
- SR 26 Lafayette to Kokomo (4R reconstruction)
- SR 46 from Spencer to Bloomington (added travel lanes)
- SR 46 Bloomington to Columbus (added travel lanes)
- SR 46 Columbus to Greensburg (added travel lanes)
- SR 60 SR 37 to I-65 (added travel lanes)

Identification of Deficiencies and Needs Analysis

In the identification of highway system deficiencies and needs described in Chapter 9, the analytical tools of the statewide travel demand model and the HERS_ST_IN needs analysis model provided information on both the identification of needs plus their priority. In developing District and MPO level maps and the listing of potential transportation improvements, the identification of the priority of the improvement and the severity of the deficiency were important inputs into project development. For each District, a map was prepared of the existing-plus-committed highway network. Each network was then loaded with forecasted future year (2000 to 2030) volumes on an incremental basis which allows an indication of when a roadway segment would exceed its desired level of service. In rural areas, level of service "C" was selected for deficiency identification. In urban areas level of service "D" was selected for deficiency identification. This information was supplemented by the output of the HERS_ST_IN needs analysis program which specifically identifies proposed added travel lanes projects by a five year improvement phase and benefit/cost ratio.

Fiscal Analysis for Program Phasing

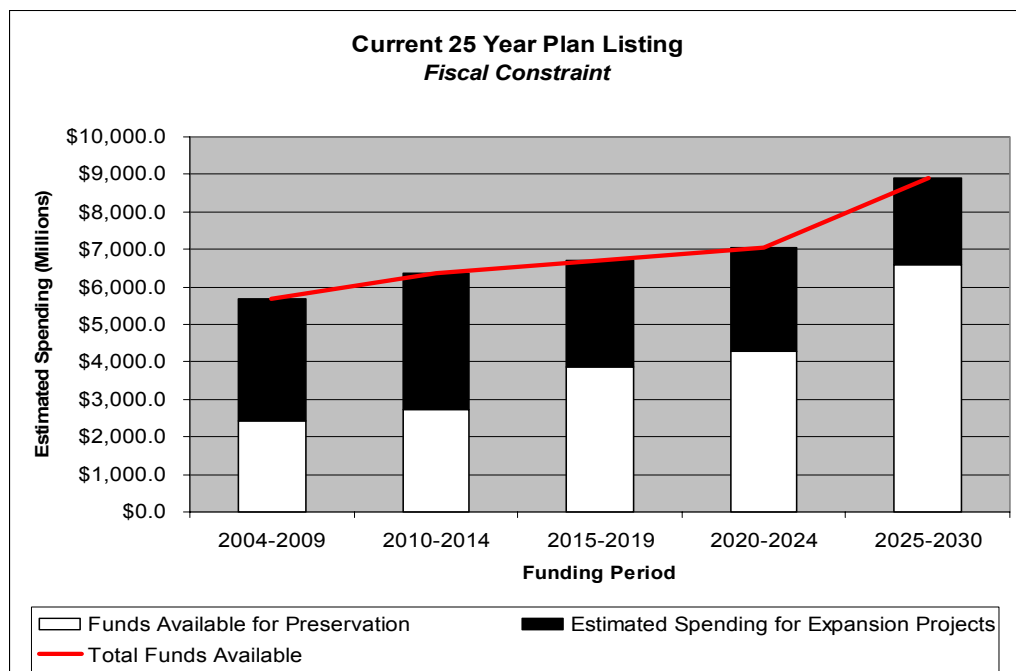
The analysis of the financial forecasts documented in Chapter 8 provided a guideline for the sizing of each of the five individual five year phasing periods. Proposed transportation improvements were shifted from one time period to another to better match forecasted revenues. Figure 10-1 identifies the funding for the priority highway system preservation needs by implementation phase in conjunction with highway capacity expansion projects.

Figure 10-1

Current 25 Year Plan Listing			
<i>Fiscal Constraint</i>			
Funding Period	Funds Available for Preservation	Estimated Spending for Expansion Projects	Total
2004-2009	\$2,439.2	\$3,244.0	\$5,683.2
2010-2014	\$2,727.3	\$3,639.1	\$6,366.4
2015-2019	\$3,879.1	\$2,812.1	\$6,691.2
2020-2024	\$4,262.8	\$2,769.7	\$7,032.5
2025-2030	\$6,575.8	\$2,338.3	\$8,914.1
	\$19,884.2	\$14,803.3	\$34,687.4
<i>NOTE: All Figures are listed in millions of (2003) dollars</i>			

The sizing of the five individual implementation phases is shown in Figure 10-2. The financial analysis indicates the overall program 2004 to 2030 plus the five funding implementation periods meet the planning objective of fiscal constraint.

Figure 10-2



It should also be noted a significant portion of the expansion projects include highway preservation activities in the form of pavement replacement on existing highway segments where added travel lanes are being implemented. For example, for a recommended interstate added travel lane improvement to widen the roadway from four to six lanes, the cost of replacing the existing four lanes of pavement is counted as a added capacity cost in addition to the two “new” lanes which provide for the added capacity. As part of the statewide planning process, studies are being conducted to better identify and account for these combined preservation and added capacity activities.

Project Identification and Phasing Review Meetings

A critical input into the planning analysis process was the project identification and prioritization meetings held at key points with MPO transportation planners, district development personnel and other key stakeholders in the transportation planning and project development process. The 2004 plan update activities began in March with a formal request to the Metropolitan Planning Organizations (MPOs), Regional Planning Organizations (RPOs) and the INDOT District development offices to review and make recommendations for revisions to the adopted November 2003 INDOT Long-Range Plan. The process has included seven meetings of an internal INDOT Plan Update Policy Oversight Committee (made up of the Divisions of Environment, Planning and Engineering; Program Development and the Multimodal Division) to guide the plan development process, twenty-six plan development meeting with the MPOs, RPOs and District development offices to identify needed plan revisions, six open-house District meetings for community notification and participation in plan update recommendations, a INDOT Long-Range Plan update display at the state fair and several meetings with FHWA to coordinate the plan update process. At the six open-house District meetings held in the late summer the results of the deficiency analysis and needs identification process were presented. Maps presenting the results of the level of service deficiencies and HERS_ST_IN recommended transportation improvements were evaluated and specific project recommendations for plan updates were made.

In addition to the long-range plan development meeting and community involvement process, input was also developed from the annual Program Development Process (PDP). In these District sponsored meetings, INDOT transportation planning staff facilitated discussion of long-range transportation needs with both District and MPO staff in a series of consultation meetings. For rural areas, the Districts invited key elected officials and transportation officials to discuss transportation needs. The production schedule, MPO plan projects and INDOT long-range plan projects were discussed at these meetings. During the plan update process, information on the analysis of needs and recommended improvements were provided to transportation stakeholders via the 2004 Plan Update website located at: <http://www.in.gov/dot/pubs/longrange/update.html>.

Pavement Management Review and Evaluation

During the development of the statewide transportation plan, improvement recommendation reviews were conducted with pavement management and programming section staff responsible for the Interstate rehabilitation program. Following the meetings with District, project development personnel, and MPO transportation planners, the overall project recommendations by improvement phase were reviewed by pavement management personnel. In an effort to reduce direct construction activity delays on road users, the coordination of construction work for pavement replacement activities and added capacity operations is a major objective of the state transportation plan.

Development of Placeholder Projects for Refinement of Transportation Improvement Concepts

In the development of the 2004 to 2030 project listing for purposes of establishing fiscal constraint, it is necessary to place transportation projects into the Long Range Plan prior to conducting the necessary planning studies to establish a design concept. In many areas, transportation problems have been defined and planning studies to refine the proposed improvement purpose and need and design concept are underway, programmed or anticipated. The “placeholder” projects in the 2004 to 2030 Long Range Plan consist of four categories: (1) Projects which have not concluded the environment studies phase, (2) Anticipated interchange projects from the Statewide Interchange Study, (3) Corridor Studies for statewide plan refinement and (4) Major transportation problem areas of statewide and regional significance which are anticipated to be studied by INDOT for improvement within the twenty-six year planning horizon.

Environmental Studies Under Development

Several environment studies are in progress or programmed to carry out the National Environmental Policy Act (NEPA) project development process where INDOT does not wish to predispose an anticipated outcome prior to the completion of a full alternatives analysis. Portrayal of the locations of these facilities/projects in this document is intended merely as a representation of potential investment and should not be viewed as a preference. The ongoing environmental studies will identify more detailed plans.

Statewide Interchange Study

The Indiana Interstate Interchange Planning Study identifies a program of interchange modification and new interchange construction projects. The final report recommendations include a prioritized list of improvements and associated estimated costs per interchange (see appendix A). The report's recommendations will provide guidance to the development of the interchange modification and new interchange construction program. An estimate of identified interchange improvement needs has been included in the project listings in Chapter 11. This estimate of interchange improvement needs allows for the establishment of a project category for each district's interchange program plus evaluation of fiscal constraint issues. These initial estimates of interchange improvement needs will be refined over the next several years into more specific projects.

Corridor Studies

The statewide transportation plan provides an integrated planning process for systems level planning activities. This provides for the evaluation of system performance, the identification of system deficiencies and needs, and the sizing of potential improvement concepts relative to the assessment of financial resources and plan development objectives. The key element in making the transition from the system planning activities to the project development / programming process is the corridor planning process. INDOT has initiated a "streamlined environmental process" which integrates the corridor planning process with a planning level environmental assessment. This streamlined environmental procedure will better integrate planning studies with the NEPA process and eliminate duplicate study activities. The corridor studies which are currently under development are included in the 2030 Long Range Plan as placeholder projects. These include the following:

US 36 Danville Corridor Improvement Study

US 50 Dearborn County/Lawrenceburg Corridor Study

US 231/SR46 Spencer Corridor Improvement Study

SR 9 Greenfield Corridor Improvement Study

SR 37 Noblesville to Marion Corridor Improvement Study

Challenges for INDOT Study

In Indiana's largest urban areas, portions of the state highway system route structure has become outdated due to the large amount of suburban development and the growth of the smaller communities on the surrounding rural fringe areas. In the development of the state highway system network, the state routes initially provided inter-city connections between the rural communities as county seats or major market activity centers. Radial routes connected the smaller communities to the larger urban centers and direct rural roadways connected the surrounding small urban centers to one another. As suburban development has spread into the suburban/rural fringe area, the initial inter-city traffic carrying ability of these interconnecting state highways has been significantly decreased. The proliferation of driveway access points (both commercial and residential) and traffic signals has reduced capacity. The surrounding suburban development has shifted the roadway's travel market from that of serving through inter-city traffic to that of serving shorter local trips with an associated increase in traffic volumes. The more dense suburban development has also created major obstacles to improving these roadways by increasing environmental constraints.

The evolution of the state highway route structure in these major urban areas has changed or may change the classification of a state highway corridor from that of a Statewide Mobility or Regional Corridor into a Local Access role serving short distance suburban trips. As this transition takes place and the associated traffic volumes increase, several options exist to address the mobility issues. These include (1) improving the existing roadway to accommodate the higher traffic volumes, (2) relocating the state highway route along a new alignment and attempting to refocus the travel market to inter-city connectivity as opposed to suburban mobility, (3) evaluating the ability of other

transportation modes to accommodate the mobility needs, and (4) a combination of all three.

INDOT is conducting the Central Indiana Suburban Transportation Study to evaluate state highway route structure in suburban areas and recommend future transportation improvements. This study is using a travel demand model linked with a land use model to evaluate the impacts of transportation accessibility on land use development patterns. It is anticipated that an additional suburban mobility study will be undertaken in the Northwest Indiana in cooperation with the region's MPO in the near future.